

(19) 世界知的所有権機関
国際事務局(43) 国際公開日
2004 年 8 月 5 日 (05.08.2004)

PCT

(10) 国際公開番号
WO 2004/066025 A1

(51) 国際特許分類: G03B 21/62, G02B 3/08, 5/00, 5/02

(21) 国際出願番号: PCT/JP2004/000531

(22) 国際出願日: 2004 年 1 月 22 日 (22.01.2004)

(25) 国際出願の言語: 日本語

(26) 国際公開の言語: 日本語

(30) 優先権データ:
特願2003-014012 2003 年 1 月 22 日 (22.01.2003) JP

(71) 出願人 (米国を除く全ての指定国について): 大日本印刷株式会社 (DAI NIPPON PRINTING CO., LTD.) [JP/JP]; 〒1628001 東京都新宿区市谷加賀町一丁目 1 番 1 号 Tokyo (JP).

(72) 発明者; および

(75) 発明者/出願人 (米国についてのみ): 石川 裕之

(ISHIKAWA, Hiroyuki) [JP/JP]; 〒1628001 東京都新宿区市谷加賀町一丁目 1 番 1 号 大日本印刷株式会社内 Tokyo (JP).

(74) 代理人: 吉武 賢次, 外 (YOSHITAKE, Kenji et al.); 〒1000005 東京都千代田区丸の内三丁目 2 番 3 号 富士ビル 3 2 3 号 協和特許法律事務所 Tokyo (JP).

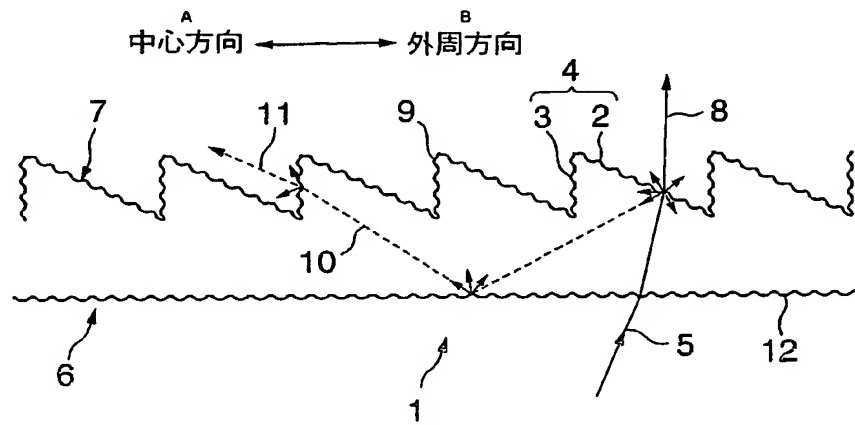
(81) 指定国 (表示のない限り、全ての種類の国内保護が可能): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) 指定国 (表示のない限り、全ての種類の広域保護が可能): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア (AM, AZ, BY, KG, SZ, TZ, UG, ZM, ZW), ユーラシア (AM, AZ, BY, KG,

/続葉有)

(54) Title: FRESNEL LENS SHEET AND REAR PROJECTION SCREEN PROVIDED WITH IT

(54) 発明の名称: フレネルレンズシートおよびそれを備えた背面投射型スクリーン

A...CENTER DIRECTION
B...OUTER PERIPHERY DIRECTION

(57) Abstract: A well-balanced Fresnel lens sheet being inconspicuous in rainbow, hot band, moiré, color cone or the like so that an observer can view a quality image without a sense of incongruity, keeping a bright uniformity, and not lowering the visibility of an image, and a rear projection screen provided with the sheet. The Fresnel lens sheet (1) has a Fresnel lens element group (4) consisting of a Fresnel lens plane (2) and a non-lens plane (3) on one sheet plane (output plane (7)), wherein the surface roughness of at least one plane out of the Fresnel lens plane (2) of the Fresnel lens element group (4), the non-lens plane (3) of the Fresnel lens element group (4), and a sheet plane (12) on a side where the Fresnel lens element group (4) is not formed is made rougher continuously or in steps as it is farther away from the center of the Fresnel lens sheet (1). It is preferable that the difference between the surface roughness at the center of the Fresnel lens sheet (1) and that at the outer periphery thereof be at least 0.1 μm and up to 5.0 μm .

/続葉有)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/000531

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ G03B21/62, G02B3/08, G02B5/00, G02B5/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ G03B21/62, G02B3/08, G02B5/00, G02B5/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2004

Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 6-235976 A (Kuraray Co., Ltd.), 23 August, 1994 (23.08.94), Full text; all drawings (Family: none)	1-8
Y	JP 6-14218 Y2 (Dainippon Printing Co., Ltd.), 13 April, 1994 (13.04.94), Full text; all drawings (Family: none)	1-8

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

20 April, 2004 (20.04.04)

Date of mailing of the international search report

18 May, 2004 (18.05.04)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.